Difference in system identification results between single and double moving averages

Comparison with correct Us＝ΣUj・Sj

Sj : j-th wall area(m^2)
Uj : j-th wall overall heat transmission (W/K・m^2)

W/K

Correct Us value	Single MA	Double MA
417.6	383.8	399.4
1.0	0.92	0.96

Two chambers total equivalent heat capacity (kJ/K)

Former research ref.[99]	Single MA	Double MA
6550	5810	6080
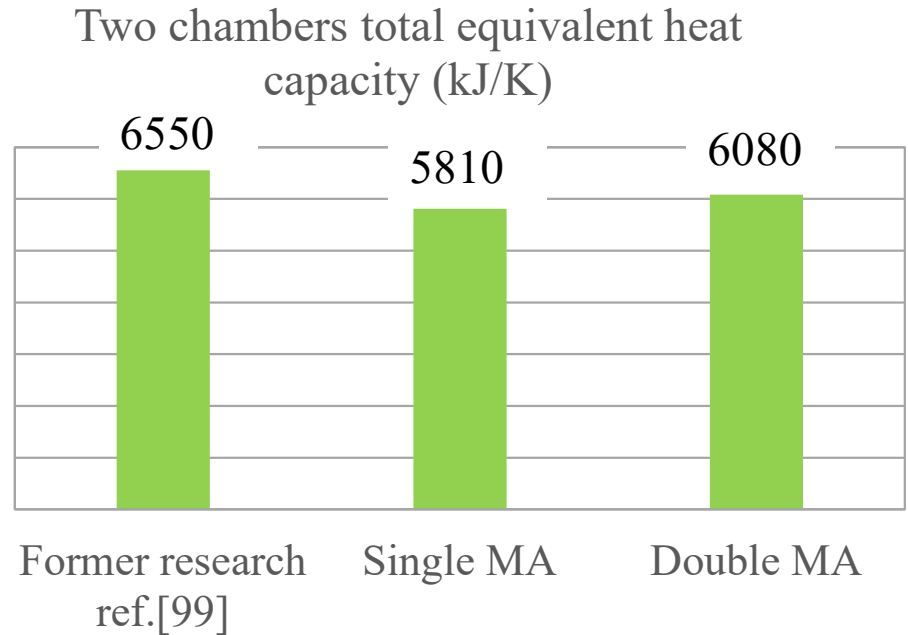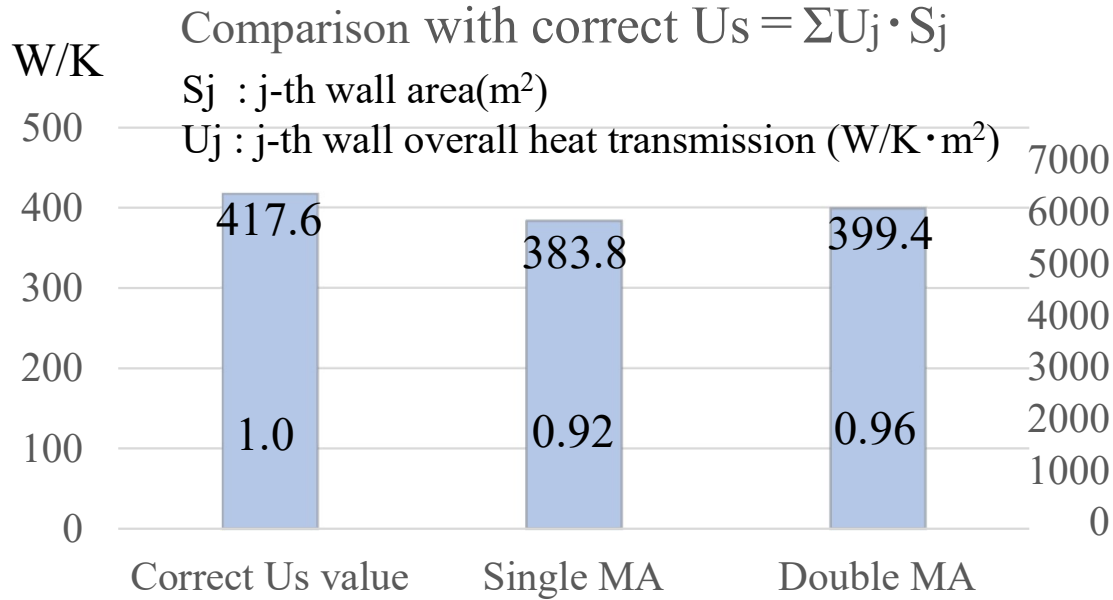
For the total area exterior wall's overall heat transmission coefficient Us, equivalent heat capacity, and solar heat gain coefficient, the deviations from the appropriate values are halved when using a double moving average compared to a single moving average.

For the ratio of exterior wall's total Us value, with the correct ratio being 1, the single moving average produces 0.92, and the double moving average achieves 0.96.

Compared to the sine wave form excitation in the previous research[99], the square wave changes more drastically, so the equivalent heat capacities become smaller in order to trace it.

Two chamber total solar heat gain (m^2:for horizontal total solar rad.)

Former research ref.[99]	Single MA	Double MA
18.8	16.5	17.8

(MA: Moving Average)